

March 28, 2003

The Honorable David K. Paylor
Deputy Secretary of Natural Resources
Ninth Street Office Building
7th Floor
202 North Ninth Street
Richmond, VA 23219

Dear Mr. Paylor:

It is my pleasure to provide you with the attached draft drought assessment and monitoring plan that was developed by the Drought Response Technical Advisory Committee (TAC). While this draft plan represents the consensus of the TAC, several actions will be necessary in the future to assure this plan meets the needs of the Commonwealth. In addition, some members of TAC had concerns that you should be aware of. These recommendations and concerns follow.

The Commonwealth must improve the collection of precipitation data to support the implementation of this plan.

The most valuable precipitation monitoring stations are those which are a part of the National Climatic Data Center (NCDC) network that report electronically on a daily basis. These stations have a known record of consistency and reliability. In addition, the NCDC contains additional stations that take one month or more to fully report. These additional stations are important but provide little timely input to address drought monitoring issues.

There are two problems associated with the daily NCDC stations. The Northern Coastal Plain, York-James, Southeast Virginia, and Eastern Shore drought evaluation regions do not contain any daily stations. In other drought evaluation regions the spatial location of existing daily NCDC stations is less than ideal.

The State Climatology Office (SCO) recommends the development of a statewide high-resolution precipitation monitoring system based upon radar observations. The cost of such a system is estimated to be \$100,000 for development in the first year and \$50,000 annually for operation. Should the development of this type of high-resolution system not be practical at this time, the SCO recommends a relatively straightforward and low-cost solution for this problem. The SCO would evaluate each drought evaluation region with no or inadequate daily NCDC stations and develop a cooperative project with agents of local governments, most likely the local Cooperative Extension Service. The SCO would supply simple rain gauges and instructions for siting and reading, manage the precipitation network, and receive and archive the precipitation data collected. This solution would greatly enhance the availability of reliable preliminary data of sufficient accuracy for rapid analysis to support the implementation of the draft drought assessment and response plan. The SCO estimates that this effort could be accomplished for \$10,000 per year.

The Commonwealth must improve the collection of ground water data to support the implementation of this plan.

There is little ground water monitoring data from water table ground water wells available outside of the York-James, Southeast Virginia, and Eastern Shore drought evaluation regions. There are no suitable ground water wells monitored in the Big Sandy drought evaluation region. In the remaining regions, the areal coverage of drought monitoring wells is not sufficient to accurately document the impacts of drought on shallow ground water conditions. The spatial distribution of water table ground water monitoring wells should be evaluated and additional water table monitoring sites should be established.

The ground water levels data that is currently being collected is generally collected as hand-taped measurements once every six to eight weeks. In order to develop meaningful ground water levels statistics for comparison use as proposed in the draft plan, continuous readings will be required for a period of three to five years. All ground water monitoring wells included in the draft plan should be equipped with continuous levels recorders as soon as possible.

Typically, continuous ground water monitoring is accomplished with automatic data recorders, strip charts, or pressure transducers coupled with data loggers. In general, each of these types of systems requires site visits and maintenance once every four to six weeks. This level of data collection will not support the timely evaluation of drought impacts on ground water that is contemplated by the draft plan. All drought indicator monitoring wells should be converted to real-time data collection and reporting. Currently one of the indicator wells is included on the USGS real-time network.

As part of the Commonwealth's water supply planning initiative, consideration should be given to the development of a "wise water use" program.

While the concept of wise water use during non-drought periods certainly goes beyond the scope of the attached draft plan, the concept of using the minimum amount of water

in the most efficient manner at all times has the potential to increase the reliability of any water system. Some members of the TAC suggested the establishment of a grant program to encourage local government to develop such programs.

As part of the Commonwealth's water supply planning initiative, consideration should be given to the development of new water supplies in a strategic manner.

Improvement in the reliability of existing and new water supply sources will result in significant protection during future drought periods. The example of the flow augmentation reservoirs that provide flow to support the Washington Metropolitan area's withdrawals from the Potomac should be evaluated. During the height of the drought in 2002, the major public water supply systems in the Washington Metropolitan area experienced minimal impacts. In addition, it should be noted that water supplies along the James River received secondary benefits from water quality releases from Lake Moomaw during the summer of 2002. These water quality releases significantly reduced the impact of the drought on these supplies. The potential for development of similar systems should be evaluated throughout the Commonwealth.

As part of the Commonwealth's water supply planning initiative, consideration should be given to encouraging or requiring all waterworks and other self-supplied users of greater than 10,000 gallons of water per day to develop a water conservation and drought contingency plan.

Drought impacts on individual water supplies are as dependent on the specific nature of the particular supply and the pattern of water use as they are on climatic conditions. Water supplies that rely on small-order free flowing streams with no water storage may experience significant water supply impacts during relatively mild drought conditions. Conversely, localities that have developed significant storage or flow augmentation reservoirs may experience minimal water supply impacts during significant drought events. No drought response plan developed at the state or regional level can account for the drought reliability of these individual systems.

If waterworks and large self supplied users are required to develop water conservation and drought contingency plans, compliance with those plans should supercede any requirements in the draft plan that is attached.

While there was general agreement in the TAC concerning the desirability of individual water conservation and drought contingency plans, the Virginia Rural Water Association and the Virginia Municipal League believe that such plans should be encouraged but not required. The primary objection to mandatory plans is the resource requirements to develop and implement such plans. These two groups believe that many small waterworks do not have resources required to develop and implement such plans. In addition, a mechanism was not identified that would allow a privately owned public waterworks to enforce such plans on their customers.

The TAC believes that the technical advisory group associated with the development of water supply planning regulations should investigate the need for water conservation and drought contingency plans in detail. During these deliberations serious consideration

should be given to the fiscal and practical impacts of such requirements on small water systems.

Some members of the TAC suggested the establishment of a grant program to encourage local governments, public waterworks, and self-supplied users to develop such plans.

As part of the Commonwealth's water supply planning initiative, consideration should be given to developing a certification program for users who develop and implement stringent water conservation programs.

TAC members generally felt that water users who implement water conservation practices voluntarily should receive benefits from this action during periods of drought. Several members pointed out that a simple requirement for a percentage reduction in water use would in fact reward those who do not conserve in non-drought periods and might preclude the operation of a facility that had instituted stringent water conservation practices at all times.

The Commonwealth should consider increasing the membership of the Drought Monitoring Task Force to better represent agricultural interests in Virginia.

Historically, the Virginia Cooperative Extension Service (VCE) has been the primary entity represented on the DMTF reporting local agricultural drought impacts. The VCE representative solicited reports of agricultural conditions from each county extension agent and reported those conditions to the DMTF. Reductions in staff due to recent budget constraints limit the ability of VCE to continue to provide this service. Currently approximately thirty counties in the Commonwealth do not have an extension agent. Consideration should be given to augmenting VCE's role on the DMTF by expanding the membership of the committee to include another agency with local agricultural contacts, such as Soil and Water Conservation Districts.

A plan should be developed outlining opportunities for use of state owned water resources during drought periods for emergency livestock watering purposes.

The draft drought assessment and response plan states that this activity should occur when a drought watch is declared. Agricultural interests represented on the TAC believe that such a plan should be developed prior to the declaration of a drought watch and become part of the Commonwealth's Emergency Operations Plan.

There should be an opportunity for public reaction to the draft drought assessment and response plan.

The TAC is in general agreement that some type of public review of the draft document should occur. The TAC does not envision a formal public hearing process, but rather an opportunity for the public to provide informal comment on the contents of the plan. At a minimum the draft plan should be distributed to local governments for review and comment.

The Virginia Municipal League, Virginia Association of Counties, and the Virginia Section of the American Water Works Association believe the mandatory water use restrictions contained in the draft plan may be too complicated.

While there is general agreement regarding the mandatory water use restrictions contained in the draft plan, there are concerns that local governments may have difficulty conveying the information to the general public. These groups would prefer that the plan contain general restrictions and allow localities the flexibility to develop specific restrictions necessary in their locality.

The Virginia Water Well Association questions the authority to regulate the use of water from private wells.

Ground water rights in Virginia are not clearly established by legislation or judicial decision. Consequently, ground water rights in Virginia are most likely controlled by common law principles that treat ground water use as a property right. An official opinion should be sought from the Office of the Attorney General to assure that the proposed mandatory water use restrictions can be legally imposed on all ground water sources in the Commonwealth. In addition, the technical advisory group associated with the development of water supply planning regulations should be informed of the legal opinion to avoid conflicts as this regulation is developed.

Enforcement and variances to mandatory water use restrictions.

Members of the TAC are in general agreement that local enforcement of mandatory water use restrictions is preferable. The draft plan currently encourages local governments to develop ordinances requiring mandatory non-essential water use restrictions consistent with the draft plan. In the case of localities that adopt such ordinances, local enforcement would be assured. Enforcement actions for local governments who do not elect to adopt ordinances are problematic at best. Members of the TAC are also in agreement that a variance procedure should be developed to provide relief to persons who experience inordinate financial impacts when compared to other persons similarly situated. In localities where local ordinances are developed these individual variances should be issued by the local government.

If you should have any questions regarding the draft plan or the recommendations contained in this transmittal letter please feel free to contact me at 804-698-4043. I would be happy to meet with you or arrange a meeting with members of the TAC to discuss any details of the draft plan if you so desire.

Sincerely,

Terry D. Wagner
Chairman
Drought Response TAC